UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

SCALE VIDEO CODING LLC,   §
                                         §
v.   §   CIVIL NO. 4:23-CV-803-SDJ
                                         §
CISCO SYSTEMS, INC.   §

MEMORANDUM OPINION AND ORDER

The Court held a *Markman* hearing to determine the proper construction of several disputed claim terms in United States Patent No. 11,019,372 ("the '372 Patent"). (Dkt. #64). Having considered the parties' filings, (Dkt. #22, #24, #28), the parties' arguments at the hearing, the intrinsic and extrinsic evidence, and the relevant law, the Court issues this Claim Construction Order. *See Teva Pharms. USA v. Sandoz, Inc.*, 574 U.S. 318, 331–32, 135 S.Ct. 831, 190 L.Ed.2d 719 (2015); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc).

I. BACKGROUND

Plaintiff Scale Video Coding LLC ("SVC") alleges that Defendant Cisco Systems, Inc. ("Cisco") has infringed and continues to infringe the '372 Patent.

The '372 Patent, which is titled "Layered Multicast and Fair Bandwidth Allocation and Packet Prioritization," was filed on January 29, 2016, and issued on May 25, 2021. It claims priority to a provisional application filed on January 26, 2005. The '372 Patent focuses on a "one-to-many communication" system called "multicasting," which is capable of "send[ing] data packets from a data source to more than one receiver" over "a network." '372 Patent at 3:6–9. Problems arise with multicasting when the flow of data exceeds the network's capacity—a condition called

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"congestion"—and the receiver must decide which packets to accept or drop. *Id.* at 5:8–10.

No matter which data packets are dropped, the data stream will be degraded. Depending on the type of information being streamed, the degree of degradation may vary. For example, if too many packets are dropped, a stream may become corrupt. *Id.* at 2:15–20. By contrast, if only a few packets are lost, the quality of the stream may decrease only slightly. *Id.* Either way, packet loss often stems from receivers having different "bandwidths"—i.e., different capacities for the flow of information at a given time. *E.g.*, *id.* at 20:65–21:1. So while one receiver may accept a given data stream without packet loss, another receiver may be unable to accept that same stream.

To address this issue, the '372 Patent teaches "a congestion control system that may prioritize designated layers of data within a data stream over other layers of the same data stream." *Id.* at Abstract. There are two main features of this "congestion control system": (1) an overlay network; and (2) packet prioritization through layering. To increase a network's capacity, an "overlay network" of "software implemented routers" with "virtual connections" can be integrated with a physical network to increase network connections and help "manage[] flow control and timely delivery" of data. *Id.* at 3:27–28, 31–32, 4:6. To further limit congestion, data streams are broken into "layers": the source device encodes a base layer with lower-frame-rate data and one or more enhancement layers with higher-frame-rate data. *Id.* at 21:25–22:2. This layered approach allows receivers to decode only the layers they can support based on bandwidth constraints, reducing unnecessary transmission of high-quality layers over

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limited-bandwidth links. *Id.* The abstract provides additional detail on this congestion control system:

> Embodiments include an overlay multicast network. The overlay multicast network may provide a set of features to ensure reliable and timely arrival of multicast data. The embodiments include a congestion control system that may prioritize designated layers of data within a data stream over other layers of the same data stream. Each data stream transmitted over the network may be given an equal share of the bandwidth. . . . Data from high priority data stream layers may also be retransmitted upon request from a destination machine to ensure reliable delivery of data.

Claim 1 of the '372 Patent is an illustrative claim and recites the following elements (disputed terms in italics):

> 1.A video router, comprising:
> a memory; and
> a processor, wherein the processor executes instructions stored in the memory to cause the video router to:
> receive a layered video data stream including a base layer and a set of enhancement layers,
> *identify bandwidth-limited conditions of an internet protocol network between the video router and a plurality of video receivers*,
> forward the base layer from the video router to at least two of the plurality of video receivers via the internet protocol network, and
> *selectively forward one or more of the set of enhancement layers, but fewer than all of the set of enhancement layers, to at least two of the plurality of video receivers through the internet protocol network based upon the identified bandwidth-limited conditions*, and wherein the video router transmits the layered video data stream according to an internet protocol;
> wherein each layer of the layered video data stream comprises data packets, each of which is encoded with a sequence number and a layer identifier, and wherein the layer identifier for each data packet is based upon a layer to which the packet belongs.

'372 Patent at 35:16–39.

II. APPLICABLE LAW

A. Claim Construction

Claim terms are generally given their plain-and-ordinary meaning. *Phillips*, 415 F.3d at 1312. The plain-and-ordinary meaning of a term is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. The "only two exceptions to this general rule" are when the patentee (1) acts as their own lexicographer or (2) disavows the full scope of the claim term either in the specification or during prosecution. *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The Federal Circuit has counseled that "[t]he standards for finding lexicography and disavowal are exacting." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). Indeed, to act as their own lexicographer, the patentee must "clearly set forth a definition of the disputed claim term" and "'clearly express an intent' to [define] the term." *Thorner,* 669 F.3d at 1365.

Outside of these exceptions, the Federal Circuit has also found that plain-and-ordinary meaning is inappropriate when a term has more than one ordinary meaning or when reliance on a term's ordinary meaning does not resolve the parties' dispute. *O2 Micro Int'l v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). In that case, the court must explain what the plain-and-ordinary meaning is. *Id.*

To discern the plain meaning of a given claim term, courts start with the "actual words" of the claims. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). When looking to those words, a term's context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or

unasserted claims can also aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning, for there is a general presumption that different claim terms have different meanings. *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1366 (Fed. Cir. 2000) ("Under the doctrine of claim differentiation, two claims of a patent are presumptively of different scope."). For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include that limitation. *Phillips*, 415 F.3d at 1314–15. But this presumption may be rebutted with intrinsic evidence. *See, e.g., Seachange Int'l v. C-COR, Inc.*, 413 F.3d 1361, 1369–75 (Fed. Cir. 2005).

After the claim language, courts next look to the specification. After all, claims "must be read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1315 (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). The specification "is always highly relevant to the claim construction analysis" and is usually "dispositive." *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Indeed, the specification "is the single best guide to the meaning of a disputed term.'" *Id.* at 1314. That said, "particular embodiments and examples appearing in the specification will not generally be read into the claims." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988). In fact, it is improper to do so "absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

"Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Phillips*, 415 F.3d at 1317. In "distinguishing the claimed invention over the prior art, an applicant is indicating what" a claim does not cover. *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1379 (Fed. Cir. 1998). The doctrine of prosecution disclaimer thus precludes a patentee from recapturing a specific meaning that was previously disclaimed during prosecution. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Id.* at 1325–26. Accordingly, when "an applicant's statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

Outside of the intrinsic evidence—the claims, the specification, and the prosecution history—courts also look to extrinsic evidence, like technical dictionaries or expert testimony. Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quotations omitted). For instance, technical dictionaries may be helpful, but they may also provide definitions that are too broad or not indicative of how the term is used in the patent. *Id.* at 1318. Expert testimony may also be helpful, but an expert's conclusory or unsupported assertions as to the meaning of a term are not. *Id.* In general, therefore, extrinsic evidence is "less

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reliable" when "determining how to read claim terms." *Id.*

B. Indefiniteness under 35 U.S.C. § 112 ¶ 2 (pre-AIA) / § 112(b) (AIA)

"[I]ndefiniteness is a question of law and in effect part of claim construction." *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012). Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must "inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910, 134 S.Ct. 2120, 189 L.Ed.2d 37 (2014). If the claim fails to do so, it is indefinite. *Id.* at 901. Indefiniteness should be analyzed from the perspective of one of ordinary skill in the art as of the patent's priority date. *Id.* at 911.

Certain types of claim terms require further scrutiny under a court's indefiniteness inquiry. For example, when a term of degree is used in a claim, "the court must determine whether the patent provides some standard for measuring that degree." *Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotations omitted). Likewise, when a subjective term is used in a claim, "the court must determine whether the patent's specification supplies some standard for measuring the scope of the [term]." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005).

III.   LEVEL OF ORDINARY SKILL IN THE ART

Patents are interpreted from the perspective of a person of ordinary skill in the art ("POSITA"). To determine the appropriate level of skill, courts consider six factors: "(1) the educational level of the inventors; (2) the type of problems encountered in the art; (3) prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) sophistication of the technology; and (6) education level of active workers in the field." *Env't Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696 (Fed. Cir. 1983). The Federal Circuit has noted, however, that "[t]hese factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art." *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

Both parties had their respective experts opine on the appropriate credentials for a POSITA in the subject matter claimed by the '372 Patent. For clarity, those proposed credentials are reproduced in the table below. From the Court's perspective, they are substantively similar, if not identical.

Mr. Michael Adams (Plaintiff)	Dr. Stephan Wenger (Defendant)
(1) Education + Experience: (i) "[A] Bachelor of Science degree in computer science, electrical engineering, or computer engineering (or a related academic field)"; and (ii) "at least two additional years of work experience in the design and development of distributed network systems and/or media streaming[.]" **(2) Experience Only:**	**(1) Education + Experience:** (i) "[A] bachelor's degree in electrical engineering, computer science, computer engineering, or an equivalent"; and (ii) "two years of relevant experience in telecommunications, networking, and video encoding, decoding, and routing." **(2) Experience Only:** (i) At least a "working knowledge of telecommunications and

(i) "[A]t least five years of work experience and training in the design and development of distributed network systems and/or media streaming." (Dkt. #22-2 ¶ 19).	networking art, including video encoding, decoding, and routing over the internet that is pertinent to the '372 Patent." (ii) "Lack of professional experience can be remedied by additional education, and vice versa." (Dkt. #22-3 ¶ 25).

Having considered the parties' proposals and the appropriate factors, the Court finds that a POSITA must have at least a bachelor's degree in electrical engineering, computer science, computer engineering, or an equivalent degree, and at least two years of work experience in the design and development of distributed network systems and/or media streaming. Lack of professional experience can be remedied by additional education, and vice versa.

IV.   CONSTRUCTION OF AGREED TERMS

The parties have agreed to the construction of the following terms:

Claim Term/Phrase	Agreed Construction
"one or more of the set of enhancement layers" Claims 1, 2, 6, 7, 11, 12	Plain and ordinary meaning
"video processing capabilities" Claims 2, 7, 12	Plain and ordinary meaning

(Dkt. #34-1 at 12). Given the parties' agreement, the Court **ADOPTS** these constructions.

V.   CONSTRUCTION OF DISPUTED TERMS

The parties dispute the meaning and scope of four phrases used in the '372

Patent. The Court takes each in turn.

A. "[identify/identifying] bandwidth-limited conditions of an internet protocol network between [the/a] video router and a [plurality/set] of video receivers"

Disputed Term	SVC's Proposal	Cisco's Proposal
"[identify/identifying] bandwidth-limited conditions of an internet protocol network between [the/a] video router and a [plurality/set] of video receivers"	No construction necessary	Indefinite

1. Analysis

The phrase "[identify/identifying] bandwidth-limited conditions of an internet

protocol network between [the/a] video router and a [plurality/set] of video receivers"

appears in claims 1, 6, and 11. The parties dispute whether the phrase "bandwidth-

limited conditions" is indefinite.

SVC believes that no construction is required and that the phrase is not

indefinite because the meaning of this term would be clear to a POSITA when read

in context. (Dkt. #22 at 7–14). To begin with, SVC notes how the claim language

constrains "bandwidth-limited conditions" to a certain piece of the claimed system:

the "internet protocol network" between the router and the receivers. *See* (Dkt. #22

at 8–9); '372 Patent at Claim 1. What's more, the specification details several

algorithms and embodiments that show how the claimed system identifies and

resolves bandwidth-limited conditions. (Dkt. #22 at 9–11); (Dkt. #28 at 5–6). Given

this context, SVC concludes that a POSITA could discern with reasonable certainty

what constitute bandwidth-limited conditions. (Dkt. #22 at 8) (explaining that a POSITA would understand the contested phrase to "refer[] to the capability of a video router system to analyze the network between itself and multiple video receivers to determine if there are any constraints on the available bandwidth and make informed decisions about how to transmit the layered video data stream effectively").

Cisco counters that the phrase "bandwidth-limited conditions" is indefinite because it "has no ordinary and customary meaning" and "neither the claims nor the specification provide[s] any standard for determining" what it means. (Dkt. #24 at 9–10). Cisco provides three main reasons for why the intrinsic evidence lacks sufficient detail. First, the phrase "bandwidth-limited conditions" does not appear in the specification. (Dkt. #24 at 10–11). Second, most of the provided embodiments use subjective metrics to identify bandwidth-limited conditions, which are insufficient to guide a POSITA. (Dkt. #24 at 12–13). Third, any embodiments in the specification that do employ objective metrics are contradictory and thus provide no guidance. (Dkt. #24 at 12–13). For example, while SVC suggests that packet loss could be one such metric, Cisco notes how the specification also states that some level of "packet loss is unavoidable using the Internet Protocol." (Dkt. #24 at 12). Cisco thus contends that the "'372 patent fails to inform, with reasonable certainty, a [POSITA] regarding the scope of the claim term[.]" (Dkt. #24 at 10).

Both parties also put forth expert declarations in support of their positions, (Dkt. #22-2, #22-3), and claim that the other side's expert is unreliable, *see* (Dkt. #22 at 12–14); (Dkt. #24 at 11–17). SVC, for example, claims that Cisco's expert, Dr.

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Wenger, cherry-picks certain examples for his declaration while remaining "silent" on others. (Dkt. #22 at 12). And, according to SVC, Dr. Wenger's use of the phrase "bandwidth-limited" in his own patents shows that a POSITA would understand what the phrase means. (Dkt. #22 at 13). In response, Cisco seeks to discredit SVC's expert, Mr. Adams, by labelling his testimony as unsupported and contradictory. (Dkt. #24 at 11–17). In addition, Cisco distinguishes Dr. Wenger's use of "bandwidth-limited" in his patents by noting differences in the scope of his patents compared to the '372 Patent. (Dkt. #24 at 18–19).

The Court agrees with SVC and finds that bandwidth-limited conditions is not indefinite and should be given its plain and ordinary meaning.

The Court begins with the claim language. *In re Hiniker*, 150 F.3d at 1369 ("the name of the game is the claim"). Claim 1 recites a video router with a memory and a processor. This processor can perform several functions: it can (1) "receive a layered video data stream" with "a base layer and a set of enhancement layers"; (2) *identify bandwidth-limited conditions of an internet protocol network between the video router and a plurality of video receivers*"; (3) "forward the base layer" to these video receivers through an "internet protocol network"; and (4) "selectively forward" some, but not all, of the "enhancement layers" to those video receivers through an "internet protocol network" based on *"the identified bandwidth-limited conditions."* The phrase "bandwidth-limited conditions" is recited in the same set of steps in claims 6 and 11 and thus carries the same meaning in each claim.

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The claim language imposes two main constraints on this term. First, bandwidth-limited conditions must be "identified" by the router's processor. Second, these conditions are analyzed vis-à-vis the "internet protocol network between the video router and a plurality of receivers." As Mr. Adams notes, the Internet Protocol suite includes protocols such as "IP, TCP (Transmission Control Protocol), and UDP (User Datagram Protocol)," which were understood in the art. (Dkt. #22-2 ¶ 64). From these constraints, a POSITA would understand that bandwidth-limited conditions relate to the available bandwidth of the internet connection between a router and certain downstream receivers.

The specification provides greater clarity by explaining how these conditions are caused, identified, and resolved.

The cause of such conditions is simple: there are too many data packets to be transmitted across a given network connection at a given rate and time. As a result, when "a bandwidth bottleneck"—a bandwidth limit—"is reached, the router discards the packets that cannot immediately be forwarded," which can cause a data stream to become "corrupt" or lead to "congestion" that can "negative[ly] impact" the "communication sessions of other nodes that communicate through the bottleneck router." '372 Patent at 1:59–65. Put another way, if "packets must be dropped due to congestion or other irrecoverable problems," *id.* at 5:9–10, the system has identified, and is attempting to resolve, a bandwidth-limited condition.

Packet loss is not always a proxy for such conditions, though. To be sure, "router crashes" or "unexpectedly closed" connections between routers and receivers

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will result in packet loss. *Id.* at 11:15–17. But these losses are different in kind: they are caused by system-related failures, not by the execution of code in response to real-time data-flow information. For that reason, only intentional packet loss created by router algorithms[1] would indicate a bandwidth-limited condition.

The specification also clarifies how the claimed system identifies bandwidth-limited conditions. Each described embodiment or method relies on algorithms to determine when such conditions exist. In one embodiment, for instance, outgoing data packets are queued before transmission to allow the router to receive feedback on network bandwidth constraints. *Id.* at 22:59–67. In that embodiment, "data is dropped if a total amount of data stored in all queues exceeds a threshold value." *Id.* at 22:59–60. To decide which packets to drop, the system can "implement[] the prioritization of logical layers when congestion occurs." *Id.* at 22:63–64. "If the buffer [(queue)] is not full," then data packets can continue to be stored. *Id.* at 22:65. Because an at-capacity buffer would represent a bandwidth-limited condition, the algorithms used to monitor the buffer capacity are likewise identifying bandwidth-limited conditions. *Id.* at 22:59–63.

Other embodiments show how to resolve bandwidth-related conditions like congestion-related packet loss. One embodiment involves an "overlay multicast system" that assigns "priority numbers" to data packets that "represent a logical layer inside a data stream." *Id.* at 21:26–28. For example, packets could be "labeled with priorities in the range 0 to 3," which would represent a stream with "4 layers."

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[1] *See, e.g.,* '372 Patent at 11:6–9, 21:38–46, 22:59–67, 23:10–12.

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Id. at 21:31–32. While any convention could be applied, the embodiment recommends

treating "0 as the highest priority and 3 as the lowest." *Id.* at 21:33–34. That priority

value "becomes relevant when a decision to discard data at a congested router is

made." *Id.* at 21:39–40. So "[w]hen an outgoing link of a router has insufficient

bandwidth to transmit all pending packets, it forwards only those packets with a

designated priority or the highest priority." *Id.* at 21:42–45. Given those constraints,

"a source" will "carefully divide[] its data packets over different layers or priorities,

in a way that a subset of the layers still contain a useful, uncorrupted representation

of the data." *Id.* 21:55–58. The result is a deterministic approach to packet loss,

governed by the router's algorithms.

The specification discloses several other ways to resolve bandwidth-limited

conditions. For example, one embodiment teaches re-routing data packets through

different network connections using "adaptive routing algorithms." *Id.* at 14:41–49.

These algorithms allow for "the content streams" to be "constantly rerouted to avoid

the network's hot spots and congestion . . . when the stream requires more bandwidth

than this single path can provide." *Id.* at 14:42–44, 55–57. As with prioritized packet

dropping, packet re-routing likewise ensures necessary packet delivery when

bandwidth-limited conditions are identified.

To summarize, the claims and the specification provide sufficient detail for a

POSITA to discern the meaning of the phrase "bandwidth-limited conditions."

Cisco's counterarguments are unpersuasive, irrelevant, or incorrect.[2] Indeed, its position that "neither the claims nor the specification provide any standard for determining" what bandwidth-limited conditions include is belied by both the implicit claim limitations and by the embodiments described above. Similarly, whether the phrase appears in the specification or not is irrelevant: what matters is whether a POSITA can discern the meaning of the phrase in context. They can.

As to Cisco's position that the embodiments use metrics that are too subjective, the Court refers Cisco to the embodiments above, which describe various algorithms for determining bandwidth-limited conditions. The specification need not provide more. *Niazi Licensing Corp. v. St. Jude Med. S.C.*, 30 F.4th 1339, 1347 (Fed. Cir. 2022) ("[A] patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement.") (citation omitted).

For Cisco's point on the contradictory nature of packet loss as a bandwidth-limited condition, the Court disagrees. While system-failure-related packet loss is not representative of a bandwidth-limited condition, algorithm-instructed packet loss in response to congestion is. The Court finds nothing contradictory about this distinction.

Finally, turning to the parties' arguments about each other's experts, the Court's construction does not rely on material provided by the expert declarations, so these arguments are irrelevant. But to the extent the Court finds any of the expert-

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[2] Both parties cite to strings of cases in which courts have found "terms of degree" to be indefinite, (Dkt. #24 at 13, 17–18), or to be not indefinite, (Dkt. #22 at 6–7). The Court finds that the construed terms in those cases are inapt and thus those constructions and the reasoning supporting them are unhelpful.

provided materials persuasive, Dr. Wenger's use of "bandwidth-limited" in both industry standards and in his patent[3] only further supports that the term was known and used by POSITA's in the industry.

All in all, the Court finds that the phrase bandwidth-limited conditions would be sufficiently clear to a POSITA given the surrounding claim language and the exemplary embodiments and algorithms in the specification. The extrinsic evidence only further buttresses the Court's conclusion. Accordingly, Cisco failed to prove by clear and convincing evidence that "bandwidth limited conditions" is indefinite. *Nautilus, Inc.*, 572 U.S. at 901.

2. Court's Construction

The Court finds that the phrase **"[identify/identifying] bandwidth-limited conditions of an internet protocol network between [the/a] video router and a [plurality/set] of video receivers"** is not indefinite and should be given its **plain and ordinary meaning**.[4]

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[3] Dr. Wenger's patent, U.S. Patent No. 7,352,809, is titled "System and method for optimal transmission of a multitude of video pictures to one or more destinations." Based on its title alone, this patent relates to the same technology area as the '372 Patent.

[4] Because the Court finds that the phrase bandwidth-limited conditions is not indefinite, the Court also rejects Cisco's related indefiniteness arguments for the "selectively forwarding" term below. *E.g.*, (Dkt. #24 at 22) ("This limitation, which appears in every independent claim, is indefinite for several reasons: (1) the term 'bandwidth-limited conditions' is an indefinite term of degree for the reasons discussed in Section IV.A and (2) the requirement of 'selectively forwarding . . . based upon the identified bandwidth-limited conditions' compounds the indefiniteness of the claims.").

B. "bandwidth-sufficient conditions"

Disputed Term	SVC's Proposal	Cisco's Proposal
"bandwidth-sufficient conditions"	No construction necessary	Indefinite

1. Analysis

The term "bandwidth-sufficient conditions" appears in claim 11 of the '372 Patent. The parties dispute whether the term "bandwidth-sufficient conditions" is indefinite.

Cisco argues that the term "bandwidth-sufficient conditions" is indefinite for similar reasons it provided for the term "bandwidth-limited conditions." These reasons include that (1) the specification does not use the term, (2) the term has no ordinary and customary meaning, and (3) the specification's embodiments are too subjective to provide guidance on when bandwidth-sufficient conditions exist or how a POSITA would make such a determination. (Dkt. #24 at 20). Cisco does present one distinct argument for this claim term, however. According to Cisco, this term is indefinite because the claim requires the router to send enhancement layers "to at least two of *the video receivers . . . with bandwidth-sufficient conditions,*" (Dkt. #24 at 20) (emphasis added). But video receivers don't have bandwidth, Cisco argues. (Dkt. #24 at 21). Rather, every use or discussion of "sufficient bandwidth" in the specification, the claims, and Mr. Adams's declaration refers to the bandwidth of a *network connection.* (Dkt. #24 at 20–21). Because this language is "inconsistent with the language of the claims," and "the specification," a POSITA is "left with no guidance on how to" assess bandwidth sufficiency "for a video receiver, which renders

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the claim indefinite." (Dkt. #24 at 21) (citing '372 Patent at 1:55–57, 4:33–37, 21:42–45, 31:19–23).

In response to Cisco's first tranche of indefiniteness arguments, SVC points to how "the specification teaches several techniques and algorithms to assess whether there is sufficient bandwidth on a network segment to a receiver, and determine the number of enhancement layers to forward to the receiver, including all enhancement layers if there is sufficient bandwidth to do so." (Dkt. #22 at 22). SVC also claims that Cisco "overlooks" several portions of Mr. Adams's declaration that help clarify what the term means in context. *E.g.*, (Dkt. #28 at 7).

Addressing Cisco's inconsistency argument, SVC proposes that the surrounding context of the claims, combined with the knowledge of a POSITA, clears up any alleged inconsistency. Appearing to agree with Cisco's interpretation, SVC maintains that the surrounding context enables a POSITA to "understand that the phrase . . . describes network conditions where the available bandwidth (capacity) is adequate to support the transmission of *all* the enhancement layers of the video stream without causing congestion or degradation in quality." (Dkt. #22 at 25). In essence, the parties' disagreement revolves around whether the inconsistency of claiming bandwidth as a receiver attribute instead of as a network attribute renders the claim indefinite.

The Court finds that "bandwidth-sufficient conditions" is not indefinite and should be given its plain and ordinary meaning.

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The language of claim 11 mirrors the language of claim 1 with two exceptions. First, the claimed "video router" is now a "scalable video coding router." Second, claim 11 includes one additional clause on top of those in claim 1: "wherein the scalable video coding router forwards *all of the set of enhancement layers to at least two of the video receivers in the set of video receivers with bandwidth-sufficient conditions*." In context, the Court agrees with SVC that a POSITA would understand the phrase "bandwidth sufficient conditions" to describe a network connection between the router and the video receivers with sufficient bandwidth to transmit all the enhancement layers of a video stream without experiencing algorithm-instructed packet loss.

The specification supports this interpretation. In fact, the embodiments and algorithms described in the section above for bandwidth-limited conditions, *see supra* Part V.A.1, are also determining whether bandwidth-sufficient conditions exist. Put differently, those algorithms are making one of two determinations: either bandwidth-sufficient conditions exist or bandwidth-limited conditions exist. If the available bandwidth between a router and receiver is sufficient to transfer a stream of data, it is the former; if the available bandwidth is insufficient, it is the latter. For clarity, in the context of claim 11, "a stream of data" would be "all of the set of enhancement layers."

Because the algorithms and embodiments described above in Part V.A.1 provide sufficiently objective criteria for a POSITA to discern bandwidth-limited conditions, they likewise provide a POSITA with that same clarity for bandwidth-

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sufficient conditions. Cisco's related arguments for this claim therefore fail for the same reasons the Court provided above for bandwidth-limited conditions. *See supra* Part V.A.1.

Turning to Cisco's inconsistency argument, the Court agrees that the claim was unartfully drafted and should have tied bandwidth-sufficient conditions to the network connection instead of the receiver. But the Court still finds that the surrounding claim language, as well as the specification's exemplary embodiments, provide adequate context to prevent indefiniteness issues.

Moreover, it's not uncommon to ascribe the qualities of a system component to the system writ large. An analogy proves the point. Suppose this claim was instead directed to an improved water-treatment plant. This water-treatment plant has state-of-the-art technology, so its capacity to process water is limited not by processing equipment but by the capacity of the inlet pipe that flows into the facility. Let's say this pipe is rated for no more than fifty gallons per minute while the processing equipment can handle up to 100 gallons per minute. Because the water-treatment plant is limited by the capacity of the inlet pipe, the plant can process no more than fifty gallons per minute.

Now, assume the current system demand requires the water-treatment plant to process forty gallons per minute. Would you say that this water-treatment plant has sufficient capacity to process that flow rate? Of course. How about forty-five gallons per minute? Sure. Fifty-one gallons per minute? No. Since no more than fifty

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gallons per minute can flow into the plant, no more than fifty gallons per minute can be processed in real time.

Technically speaking, though, the water-treatment plant *does* have the capacity to process fifty-one gallons per minute. In fact, it can process almost twice that—100 gallons per minute. But since the plant's processing speed is limited by the flow rate entering the facility, we attribute to the water-treatment plant the capacity limitations of the inlet pipe. While it would be more correct to say that the inlet pipe does or does not have sufficient capacity to convey fifty-one gallons per minute—not the water-treatment plant itself—everyone understands the attribution of the inlet-pipe capacity to the water-treatment plant.

The same is true here. Of course, it would be more correct to say that the bandwidth-limited or bandwidth-sufficient conditions are capacity determinations of the network, not of the receivers. But anyone reading the claim in the context— especially a POSITA with a degree and at least two years of relevant industry experience—knows what the claim covers. This argument therefore fails.

2. Court's Construction

The Court finds that the phrase **"bandwidth-sufficient conditions"** is not indefinite and should be given its **plain and ordinary meaning**.

C. **"selectively [forward/forwards/forwarding] one or more of the set of enhancement layers, but fewer than all of the set of enhancement layers, to at least two of the plurality of video receivers through the internet protocol network based upon the identified bandwidth-limited conditions"**

Disputed Term	SVC's Proposal	Cisco's Proposal
"selectively [forward/forwards/forwarding] one or more of the set of enhancement layers, but fewer than all of the set of enhancement layers, to at least two of the plurality of video receivers through the internet protocol network based upon the identified bandwidth-limited conditions"	No construction necessary	Indefinite Alternatively, if not indefinite, "selecting using a layer identifier of one or more of the set of enhancement layers and forwarding the one or more of the set of enhancement layers, but fewer than all of the set of enhancement layers, to at least two of the plurality of video receivers through the internet protocol network based upon the identified bandwidth-limited conditions."

1. Analysis

The phrase "selectively [forward/forwards/forwarding] one or more of the set of enhancement layers, but fewer than all of the set of enhancement layers, to at least two of the plurality of video receivers through the internet protocol network based upon the identified bandwidth-limited conditions" appears in asserted claims 1, 6, and 11. The parties dispute whether the phrase is indefinite. In the alternative, Cisco argues that the term requires selecting one or more of the set of enhancement layers "using a layer identifier."

SVC argues that no construction is required and that the phrase is not indefinite because a POSITA would understand the term with reasonable certainty. (Dkt. #22 at 14–22). This is so, SVC contends, because the specification is replete with

examples of how the router selects certain enhancement layers to forward, providing a POSITA with sufficient detail to understand the claim scope. (Dkt. #22 at 15) (citing *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1335 (Fed. Cir. 2010) (noting that a claim is not indefinite when the intrinsic record supplies general guidelines and examples to enable a POSITA to discern the claimed scope)). In particular, SVC points to the following examples from the specification:

- Subdividing data streams into layers and only forwarding the layers that the network can handle. '372 Patent at 5:17–21.

- Guaranteeing delivery of critical layers and forwarding layers that contain additional information based on bandwidth-limited conditions. *Id.* at 5:22–25.

- Dividing the data stream into prioritized layers and forwarding them based on priority level and network conditions. *Id.* at 21:25–52.

- Dropping data if the total amount of data to be transmitted in the queue exceeds a specified threshold value. *Id.* at 22:59–60.

(Dkt. #22 at 15–17).

SVC also rejects Cisco's alternative construction because it improperly imports a certain embodiment into the claim—the use of layer identifiers. (Dkt. #22 at 20). As stated by SVC, the specification identifies several other ways in which the claimed system may select the one or more enhancement layers to forward, including the use of priority values. (Dkt. #22 at 20); (Dkt. #28 at 12). In SVC's view, because Cisco's proposed construction unnecessarily restricts the claim scope and excludes exemplary embodiments, the construction is improper. (Dkt. #22 at 22).

By contrast, Cisco argues that the term is indefinite for three main reasons. First, as with the other terms, the specification fails to provide objective criteria to explain how the claimed invention selectively forwards the enhancement layers.

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(Dkt. #24 at 22). Second, the support provided by SVC's expert declaration is not credible because it departs from what the specification discusses about "optimizing bandwidth usage." (Dkt. #24 at 23). Third, the embodiments cited by SVC in which the selective forwarding is performed based on decisions "made at or by *a receiver*" should be disregarded as improper. (Dkt. #24 at 23 & n.7). In Cisco's view, SVC disclaimed this claim scope—selectively forwarding based on *receiver-identified* bandwidth-limited conditions—to overcome an objection during prosecution. (Dkt. #24 at 23–24). SVC is thus estopped from claiming such embodiments, making them irrelevant to the Court's construction. (Dkt. #24 at 23–24).

If the Court finds that the term is not indefinite, then Cisco believes the proper construction requires using a layer identifier to select which enhancement layers are forwarded. (Dkt. #24 at 24). Without this limitation, Cisco argues, the scope of the claims remains too ambiguous. (Dkt. #24 at 24–25). And in response to SVC's counterexample of using priority values, Cisco concludes that the term "priority" is interchangeable with "layer." (Dkt. #24 at 25 n.8). As a result, including the layer-identifier limitation does not exclude this preferred embodiment and is consistent with the specification. (Dkt. #24 at 25–26). Cisco cites two reasons in support. First, Cisco cites to the '372 Patent's parent patent—U.S. Patent No. 7,733,868 (the "'868 Patent")—which uses the terms interchangeably. (Dkt. #24 at 26 n.10). Second, SVC indicated during prosecution of the '868 Patent that a layer identifier is used to show priority. (Dkt. #24 at 26 n.10).

The Court agrees with SVC and finds that this term is not indefinite and should be given its plain and ordinary meaning.

The Court begins with the claim language. *In re Hiniker*, 150 F.3d at 1369. As discussed above, *see supra* Part V.A.1, claim 1 recites a video router with a processor that can forward certain layers of a data stream to a video receiver in a given sequence. After forwarding the base layer, the router can "*selectively forward one or more, but fewer than all*" of the "*enhancement layers*" to "*at least two*" of the "*video receivers through an internet protocol network based upon the identified bandwidth-limited conditions*." These enhancement layers—comprised of data packets—each contain a "layer identifier" and a "sequence number" to help the receiver identify which layer they belong to. The disputed term is recited in the same set of steps in claims 6 and 11 and thus carries the same meaning in each claim. To summarize, the claim language imposes three limits on the selective-forwarding process: (1) the router must be the device that decides to selectively forward the enhancement layers; (2) the selection process must be in response to the identification of bandwidth-limited conditions; and (3) the enhancement layers must each contain a layer identifier and a sequence number.

The specification clarifies how the selection process occurs in response to bandwidth-limited conditions. While numerous examples show how the router selectively forwards certain layers, *e.g.*, '372 Patent at 21:26–58 (selective forwarding through packet prioritization), the Court agrees with Cisco that many of SVC's cited examples are based on *receiver-identified* bandwidth-limited conditions and are thus

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inapt, *e.g.*, *id.* at 28:63–30:56. Still, other embodiments show router-initiated selective forwarding based on router-identified bandwidth-limited conditions. *E.g.*, 21:25–52; 22:15–60.

For example, one embodiment relates to a "process for managing congestion" that is employed "at each individual router." *Id.* at 22:15–17. Each router has an "interface module" with an "inbound pipeline and outbound pipeline . . . for processing inbound and outbound data." *Id.* at 22:18–21. These pipelines "buffer[] data" until they are transferred or until the pipeline is "unable to keep up with the pace" of data transfer and begins to drop certain packets. *Id.* at 22:21–25. When the router determines that it cannot keep up with the data-transfer rate, it has identified a bandwidth-limited condition.

The specification then discloses several methods through which the router can decide what data to drop and what data to forward from the queue. While some decisions are driven by packet priority, others are driven by algorithms focused on bandwidth allocation and packet size. Take these four embodiments:

- "[A] queue is chosen randomly or in a round robin to have data dropped." *Id.* at 22:42–43.
- "[T]he queue with the most data is chosen to have data dropped." *Id.* at 22:44.
- "[A] weighting factor" is used "to determine which queue is selected to have data dropped . . . . based on the amount of data in a queue, size of packets in a queue and similar factors." *Id.* at 22:45–48.
- Data packets are dropped "if a total amount of data stored in all queues exceeds a threshold value." *Id.* at 22:59–60.

None of these embodiments rely directly on a layer identifier to decide which packets to drop or send. The first embodiment uses randomization to decide which

packets to drop or forward. The latter three use packet size. So while selective

forwarding may be determined based on packet priority or layer, the embodiments

above show that it need not be so constrained. Taking these embodiments together

with the claim language, a POSITA would be able to discern with reasonable clarity

the scope of this term.

But even if that weren't the case, the prosecution history even further limits

the scope of this term. The Court agrees with Cisco's view that the patentee for the

'372 Patent disclaimed certain claim scope based on its response to an office action

rejecting as obvious these limitations in light of U.S. Patent Application No.

2002/0126698 (the "Deshpande Reference"). In that response, the patentee argued

that "*the router* identifies the bandwidth-limited conditions and then *the router*

selectively transmits" enhancement layers "based on the bandwidth-limited

conditions identified *by the router*." (Dkt. #24-5 at 10–11). This argument was

necessary to overcome the Deshpande Reference. In fact, the patentee "could not

fathom how it is not absolutely clear that every single sentence [in the Deshpande

Reference] teaches against . . . *the router, rather than any of the receivers, both*

identify[ing] bandwidth-limited conditions of the network and selectively forward[ing]

data based on the bandwidth-limited conditions the router itself previously

identified." (Dkt. #24-5 at 15). The patentee thus expressly disclaimed embodiments

in which the receiver identifies bandwidth-limited conditions or selects which

enhancement layers to forward based on those conditions.[5] *Tech. Props. Ltd. v.*

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[5] For clarity, the Court does not believe that SVC is estopped from claiming methods
through which the router uses *information* from receivers to identify bandwidth-limited

Huawei Techs. Co., 849 F.3d 1349, 1358 (Fed. Cir. 2017).

All in all, the intrinsic evidence provides a POSITA with sufficient guidelines and examples to render this term not indefinite. *Enzo Biochem, Inc.*, 599 F.3d at 1335.

Cisco's remaining counterarguments are unpersuasive. Beginning with the first of two remaining indefiniteness arguments, the Court has discussed several embodiments with objective criteria—routing algorithms—to selectively forward enhancement layers. *See, e.g.*, 21:25–52; 22:15–60. Second, as to Mr. Adams's alleged deviations from the specification, this argument is irrelevant because the Court did not rely on the information provided by either expert in coming to its construction.

As to Cisco's alternative proposed construction, the Court disagrees that this limitation should be read into the claim for at least three reasons.

First, as detailed above, the specification discloses several embodiments that do not rely on priority value or layer to decide whether to drop or forward a given packet. One method randomly drops (and thus randomly forwards) certain data packets in the queue. Several other embodiments make forwarding decisions based on file size, queue size, or queue thresholds. Cisco provides no reason for these embodiments to be read out of the claims. Nor does the Court find one.

Second, Cisco provides nothing in the specification to suggest that SVC intended to limit these claims to only embodiments that use a layer identifier to perform selective forwarding. And "absent a clear indication" of SVC's intent for "the claims to be so limited," the Court refuses to read this limitation in.

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conditions. Put another way, the receiver may convey congestion-related information to the router so long as the router uses its own algorithm to identify that congestion exists.

Third, Cisco says that its construction is consistent with the claim language. Quite the opposite. Cisco's construction would inject ambiguity into the claims. True, the claims require each packet to include a sequence number and *a layer identifier*. But a quick look at Cisco's reminted claim creates an antecedent-basis issue that renders this construction untenable:

> [select/selecting/selects] using *a layer identifier* of one or more of the set of enhancement layers and [forward/forwarding/forwards] the [subset of enhancement layers.]
>
> wherein each layer . . . is encoded with a sequence number and *a layer identifier*, and wherein *the layer identifier* for each data packet is based upon a layer to which the packet belongs.

Does the claim now have two different layer identifiers? If so, which layer identifier is being referenced by "*the* layer identifier"? If not, why do we refer to the same layer identifier twice with the indefinite article "a"? Either way, Cisco's requested construction only obfuscates the claims. As a result of these three issues, Cisco's alternative construction does not constitute clear and convincing evidence and must be rejected. *SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1378–79 (Fed. Cir. 2013).

2. Court's Construction

The Court finds that the phrase **"selectively [forward/forwards/forwarding] one or more of the set of enhancement layers, but fewer than all of the set of enhancement layers, to at least two of the plurality of video receivers through the internet protocol network based upon the identified bandwidth-limited conditions"** is not indefinite and should be given its **plain and ordinary meaning**.

D. "the video receiver"

Disputed Term	SVC's Proposal	Cisco's Proposal
"the video receiver"	No construction necessary.	Indefinite

1. Analysis

The term "the video receiver" appears in claims 2 and 7 of the '372 Patent, which depend on claims 1 and 6 respectively. The Court finds that the term is used consistently in both claims and is intended to have the same general meaning in each claim. Because the claims are substantively identical, the Court's discussion focuses on claims 1 and 2 as representative.

Claim 1 recites "video receivers" in three different steps:

- When the router identifies "bandwidth-limited conditions of an internet protocol network between the video router and *a plurality of video receivers*[.]"

- When the router forwards the base layer "to *at least two of the plurality of video receivers* via the internet protocol network[.]"

- When the router selective forwards some of the enhancement layers "to *at least two of the plurality of video receivers*[.]"

Claim 2 then recites a video router that "further selectively forwards the one or more of the set of enhancement layers based on video processing capabilities of *the video receiver*." The parties dispute focuses on whether claims 2 and 7 are indefinite because "the video receiver" lacks a clear antecedent basis.

Cisco contends that dependent claims 2 and 7 are indefinite because there are six possible antecedent bases for the video receiver but no principled way for a POSITA to discern which is correct:

1. one of the "*at least two of the plurality of video receivers*" in the "forwarding" step.

2. each of the "*at least two of the plurality of video receivers*" in the

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"forwarding" step.

3. one of the "*at least two of the plurality of video receivers*" in the "selectively forwarding" step.

4. each of the "*at least two of the plurality of video receivers*" in the "selectively forwarding" step.

5. one of the "*plurality of video receivers*" in the "identifying bandwidth-limited conditions" step.

6. each of the "*plurality of video receivers*" in the "identifying bandwidth-limited conditions" step.

(Dkt. #24 at 29–30). Cisco notes that SVC argues for option 4, an allegedly "arbitrary" decision because SVC does not explain "why option 4 is the only reasonable choice." (Dkt. #24 at 30). And according to Cisco, the portion of the specification Mr. Adams cites to in support of SVC's proposed antecedent basis is unrelated to selective forwarding and should be disregarded. (Dkt. #24 at 30).

Moreover, Cisco argues that SVC's proposed antecedent-basis creates inconsistencies among the claims along with a grammatical mismatch with "the video receiver." (Dkt. #24 at 30). To prove this point, Cisco compares the differences among the limitations of claims 1/2, 6/7, and 11/12. Independent claims 1 and 6, for example, recite to "*a plurality of* video receivers" or "*the plurality of* video receivers." Independent claim 11, by contrast, recites "*a set of* video receivers" or "*in the set* of video receivers." Dependent claims 2 and 7 then describe selective forwarding "based on video processing capabilities of *the video receiver.*" Claim 11, on the other hand, describes selective forwarding "based on video processing capabilities *of each of the set of video receivers.*" Because neither claim 2 nor claim 7 uses the word "each" before the video receivers, but claim 12 does, Cisco asserts that reading "each" into claims 2 and 7 creates an inconsistency with claim 12 and thus casts doubt on option 4.

Cisco casts additional doubt on option 4 because "claim 12 derives its antecedent basis from the 'set of video receivers' recited in the 'identifying bandwidth-limited conditions' limitation (option 6), and not the 'at least two of the remaining video receivers,' in the selectively forward' limitation (option 4)." (Dkt. #24 at 30) (emphasis omitted). Because SVC provides no reason for why the video receivers in claims 2 and 7 require a different antecedent basis than the video receiver in claim 12, Cisco argues that either option 4 is incorrect, or, at a minimum, the correct option is unclear. (Dkt. #24 at 30–31).

Turning to the grammatical mismatch, Cisco notes that SVC's proposed antecedent basis applies the determiner "each"—which requires more than one of something—to a single "video receiver." (Dkt. #24 at 31). This mismatch, compounded with the several possible antecedent bases for the video receiver, creates too much ambiguity for a POSITA to discern with reasonable certainty the meaning of the claim. (Dkt. #24 at 31).

SVC contends that the term is not indefinite because a POSITA would be reasonably certain that the video receiver "refers to *each of* the 'at least two' video receivers that the router selectively forwards layers to." (Dkt. #22 at 22–23). According to SVC, the specification supports this construction because it teaches that each receiver has its own capabilities and that the receivers can each receive a different number of data layers concurrently. (Dkt. #22 at 23) (citing '372 Patent at 33:15–19). SVC further maintains that the intrinsic evidence provides sufficient clarity to resolve any alleged antecedent-basis issue. (Dkt. #22 at 24). In particular,

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SVC points to claim 2's use of "further selectively forwards" as proof that "the video receiver" must refer to the "at least two of the plurality of video receivers" within the only selective-forwarding step in claim 1. (Dkt. #28 at 13).

The Court agrees with SVC and finds that "the video receiver" is not indefinite and should be given its plain and ordinary meaning.

Beginning with the claim language, claim 2 explicitly refers to the "selectively forward" step in claim 1, which recites "at least two of the plurality of video receivers." This limitation ensures that enhancement layers are forwarded selectively based on the available bandwidth between the router and each receiver. Because claim 2 explicitly references the selectively forwarding limitation of claim 1, a POSITA would understand that the term "the video receiver" has its antecedent basis within this limitation. Therefore, the only plausible antecedent-basis constructions here are options 3 or 4:

> 3. one of the "*at least two of the plurality of video receivers*" in the "selectively forwarding" step.
>
> 4. each of the "*at least two of the plurality of video receivers*" in the "selectively forwarding" step.

(Dkt. #24 at 29–30). And although Cisco believes that claim 12's video receiver finds its antecedent basis in the set of video receivers from the "identify" step in claim 11, Cisco is mistaken. At that point in claim 11, the set of video receivers have only been "identified" by the router—nothing has been sent to them. So in claim 12, the router would not be "*further* selectively forwarding" enhancement layers to a set of receivers that it has not already selectively forwarded layers to. Cisco is thus incorrect that selecting the antecedent basis for options 3 or 4 would be inconsistent with claim 12.

Cisco is also mistaken that claim 12's use of "each" before the video receivers makes options 3 or 4 inconsistent. True enough, claims 2 and 7 do not use "each" before "the video receivers." But the use of "each" in claim 12 is to clarify that the relevant set of receivers includes both the "*at least two of the remaining* video receivers" as well as the other "remaining video receivers." Claims 2 and 7 therefore lack the word "each" because neither claim has an explicit subset of "remaining" receivers. Put another way, the claims are drafted differently, so the use of "each" in claim 12 is not dispositive on whether "each" should be implied in claims 2 and 7.

Finally, as to the grammar mismatch, Cisco reads too much into the grammar of the claims. Two examples make this clear. First, claim 12 describes the video capabilities "of each of the set of video receivers." Of course, "each" is not a proper determiner for "the set"—which is singular: It should be "sets." Yet Cisco relies on claim 12 to explain why claims 2 and 7 are indefinite. (Dkt. #24 at 30). Clearly the singular/plural issue did not trip Cisco up there. Nor would it trip up a POSITA. Second, this same singular/plural issue crops up mere words before the contested phrase in claim 2: "wherein the video router further selectively forwards the *one or more of the set of enhancement layers* based on video processing capabilities of the video receiver." In this circumstance, "set" should agree with "more"—not "one"— because "more" is closer. In short, while a claim's use of singular or plural nouns may be relevant to claim construction, that relevance diminishes as the number of grammatical errors increases. The Court therefore finds that Cisco's complained-of

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grammar mismatch is overblown and that a POSITA would have no issue understanding the scope of the claims.

The specification only further supports the court's findings. Each receiver has its own capabilities. Different receivers may thus receive different enhancement layers based on the identified bandwidth-limited conditions. *E.g.*, '372 Patent at 33:15–19. Additionally, bandwidth-limited conditions exist between a specific receiver and a router, meaning that there is no universal bandwidth-limited condition among receivers. *See id.* at 28:37–52. How many enhancement layers should be forwarded to a given receiver is thus determined on a receiver-by-receiver, network-by-network basis. So although the claims only recite "the video receiver" in claims 2 and 7, the claim language and the specification imply that the term refers to "each of" the video receivers in claims 1 and 6.

The Court thus finds that a POSITA would be able to understand the meaning of "the video receiver" with reasonable certainty. Accordingly, Cisco has failed to prove by clear and convincing evidence that the term is indefinite. *Nautilus, Inc.*, 572 U.S. at 901.
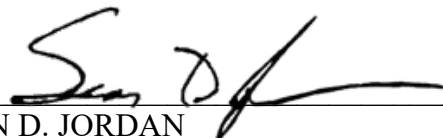
2. Court's Construction

The Court finds that the term **"the video receiver"** is not indefinite and should be given its **plain and ordinary meaning**. For clarity, the antecedent basis for **"the video receiver"** is supplied by **each of "the at least two of the plurality of video receivers** that receive one or more enhancement layers" from claims 1 and 6.

VI.   CONCLUSION

The Court adopts the above constructions. The parties are **ORDERED** to not refer, directly or indirectly, to each other's claim-construction positions in the presence of the jury. Likewise, the parties are **ORDERED** to refrain from mentioning any part of this opinion, other than the definitions adopted by the Court, in the presence of the jury. The parties are also reminded that the testimony of any witness is bound by the Court's reasoning in this order but that any reference to claim-construction proceedings is limited to informing the jury of the definitions adopted by the Court.

So ORDERED and SIGNED this 7th day of April, 2025.

SEAN D. JORDAN
UNITED STATES DISTRICT JUDGE